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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,623	07/06/2005	Rodney A. Mattson	PHUS030006US	8356

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER	
KIKNADZE, IRAKLI	

ART UNIT	PAPER NUMBER
2882	

MAIL DATE	DELIVERY MODE
10/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,623	MATTSON ET AL.	
	Examiner	Art Unit	
	Irakli Kiknadze	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In response to the Office action mailed April 24, 2007 the Amendment has been received on July 18, 2007.

Claims 1, 5, 20 and 21 have been amended.

Claims 25-27 have been newly added.

Claims 1-27 are currently pending in this application.

Allowable Subject Matter

2. The indicated allowability of claims 4, 5, 18 and 19 is withdrawn in view of the newly discovered reference(s) to Coon et al. (US Patent 4,891,522). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 6-9, 17 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. (US patent 5,777,335) in view of Coon et al. (US Patent 4,891,522).

With respect to claims 1, 4-7, 17 and 21-27, Mochizuki teaches a method and apparatus comprising: a radiation detector module including (Fig.1): a scintillator (4) arranged to receive penetrating radiation (10), the scintillator (4) producing second radiation responsive to the penetrating radiation; a detector array (1 and 2) arranged to detect second radiation produced by the scintillator (4); electronics (6) arranged on a side of the detector array opposite from the scintillator in a path to receive penetrating radiation that has passed through the scintillator; a radiation shield (5) disposed between the detector array (1 and 2) and the electronics (6), the radiation shield (5) being substantially absorbing with respect to the penetrating radiation; an electrical wiring (11) electrically connecting the detector array (1 and 2) and electronics (6) (column 3, lines 22-38 and 54-61; column 7, line 55 – column 8, line 7).

Mochizuki fails to teach that the radiation shield including openings communicating between the detector array and the electronics; and electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector array and the electronics.

Coon teaches a radiation detector with a radiation shield including openings communicating between the detector array and the electronics; and electrical feedthroughs (13) (column 3, lines 59-68) passing through the radiation shield (3) (column 3, lines 39-42) (see Figs. 2 and 3). Further, an insulating support (23) (column

4, lines 1-3) retains the electrical feedthroughs in an arrangement comporting with an arrangement of the radiation shield opening (see Figs. 2 and 3)

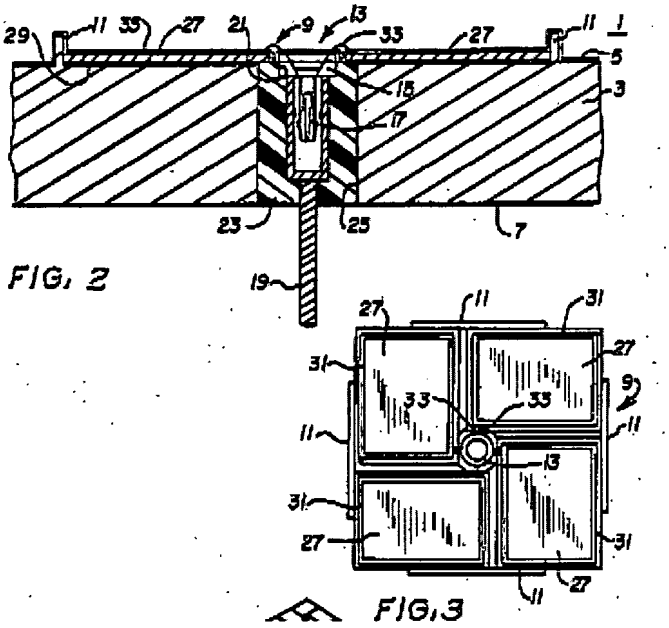

FIG. 2

FIG. 3

This arrangement provides user with the radiation detector comprising more straightforward and compact electrical wiring arrangement for connecting the detector array and electronics. Additionally, the electrical wires are shielded minimizing possible interference from the penetrating radiation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector array and the electronics as suggested by Coon in the method and apparatus of Mochizuki, since such a modification would provide user with the improved radiation detector which is more compact and protected since the sensitive electrical connections

and electronic elements are shielded minimizing possible interferences from the penetrating radiation.

With respect to claim 2, Mochizuki teaches that the detector array includes: back-contact photodetectors each having a second radiation-sensitive side facing the scintillator and an electrical contacting side facing the radiation shield (column 7, lines 7, line 55 - column 8, line 7).

With respect to claims 3, 8 and 9, Mochizuki teaches that the radiation shield (5) is electrically insulating and comprises lead glass (Fig. 1; column 4, lines 57-65).

5. Claim 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. (US patent 5,777,335) and Coon et al. (US Patent 4,891,522) as applied to claim 1 above, and further in view of Batten et al. (US Patent Application Publication 2004/0079904 A1).

With respect to claims 10 and 11, Mochizuki as modified by Coon, teaches claimed invention except that the radiation shield is formed of a composite material including a polymeric binder and a matrix of high-Z material. Batten teaches a radiation shield is formed of a composite material including a polymeric binder and a matrix of high-Z material tungsten (see paragraph 0033). This arrangement provides user with an environmentally safe, low cost, lightweight radiation shielding enclosure with good radiation shielding properties (see paragraph 0007).

6. Claim 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al. (US patent 5,777,335) and Coon et al. (US Patent 4,891,522) as applied to claim 1 above, and further in view of Hoffman (US Patent 6,115,448).

With respect to claims 12-16, Mochizuki as modified by Coon, teaches claimed invention except for employing high-Z material conductors. Hoffman teaches a radiation detector comprising plurality of golden plated conductors (see claim 21). Gold conductors are commonly used in the electronic devices due to its excellent electro conductivity and corrosion resistant properties. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use electrical conductors comprising gold as suggested by Hoffman in the apparatus of Mochizuki as modified by Coon, since such a modification would provide user with the more reliable detector module comprising plurality of golden plated conductors exhibiting excellent electro conductivity and corrosion resistant properties.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon et al. (US patent 6,256,4040 B1) in view of Mochizuki et al. (US patent 5,777,335) and Coon (US Patent 4,891,522).

With respect to claim 20, Gordon teaches a computed tomography scanner (100) including (Figs. 1-4): a stationary gantry (125); a rotating gantry rotatably connected with the stationary gantry (125) for rotation about an axis of rotation; an x-ray source (128) mounted to the rotating gantry (22) for projecting a cone-beam of radiation through the axis of rotation; a tiled array (130) of detector modules (521) disposed

across the axis of rotation from the x-ray source (128); and a reconstruction processor (515) for processing an output of the electronics into an image representation (column 9, lines 26-58 and column 12, lines 54-65). Gordon teaches radiation shield (138) connected to detector (130) and preventing radiation from propagating beyond the gantry (125) (Fig.3; column 10, lines 1-3). Gordon fails to teach that radiation shield including openings communicating between the detector array and the electronics associated to the detector; and electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector array (1) and the electronics.

Mochizuki teaches a radiation detector comprising: a scintillator (4) arranged to receive penetrating radiation (10), the scintillator (4) producing second radiation responsive to the penetrating radiation; a detector array (1 and 2) arranged to detect second radiation produced by the scintillator (4); electronics (6) arranged on a side of the detector array opposite from the scintillator in a path to receive penetrating radiation that has passed through the scintillator; a radiation shield (5) disposed between the detector array (1 and 2) and the electronics (6), the radiation shield (5) being substantially absorbing with respect to the penetrating radiation; an electrical wiring (11) electrically connecting the detector array (1 and 2) and electronics (6) (column 3, lines 22-38 and 54-61; column 7, line 55 – column 8, line 7).

Coon teaches a radiation detector with a radiation shield including openings communicating between the detector array and the electronics; and electrical feedthroughs (13) (column 3, lines 59-68) passing through the radiation shield (3) (column 3, lines 39-42) (see Figs. 2 and 3). Further, an insulating support (23) (column

4, lines 1-3) retains the electrical feedthroughs in an arrangement comporting with an arrangement of the radiation shield opening (see Figs. 2 and 3). This arrangement provides user with the radiation detector comprising more straightforward and compact electrical wiring arrangement for connecting the detector array and electronics.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use electrical feedthroughs passing through the radiation shield openings and electrically connecting the detector array and the electronics as suggested by Mochizuki and Coon in the apparatus of Gordon, since such a modification would provide user with the improved radiation detector which is more compact and protected since the sensitive electrical connections and electronic elements are shielded minimizing possible interferences from the penetrating radiation.

Response to Arguments

8. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IK
September 26, 2007

Irakli Kiknadze
Patent Examiner